

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
(Norfolk Division)**

MORPHO DETECTION, INC.,

Plaintiff,

v.

SMITHS DETECTION INC.,

Defendant.

Case No. 2:11-cv-498-MSD-TEM

**MEMORANDUM OF LAW IN SUPPORT OF DEFENDANT SMITHS  
DETECTION INC.'S MOTION FOR SUMMARY JUDGMENT REGARDING  
INVALIDITY, LACHES, FAILURE TO MARK, AND NO WILLFULNESS**

## I. INTRODUCTION

Plaintiff Morpho Detection, Inc. (“Morpho”) asserts U.S. Patent No. 6,815,670 (“‘670 patent”) (Ex. A)<sup>1</sup> against Defendant Smiths Detection Inc. (“Smiths”). The alleged invention of the ‘670 patent is a detector that uses a two-dryer regenerative drying system. This was an alleged improvement over certain prior art detectors that used a one-dryer regenerative drying system to supply dry air. However, the use of two-dryer regenerative drying systems—exactly as disclosed in the ‘670 patent—to provide a supply of dry air was well known. Thus, the alleged invention does nothing more than substitute one known drying system in a detector (one-dryer) for another known drying system available in the prior art (two-dryer regenerative dryers). As such, the ‘670 patent is invalid as obvious under 35 U.S.C. § 103(a) and under the principles articulated by the Supreme Court in *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398 (2007). In particular, the invention is a “simpl[e] arrang[ement of] old elements with each performing the same function it had been known to perform,” and is thus invalid as obvious. *KSR*, 550 U.S. at 417.

Although the Court has conducted a claim construction hearing, the Court need not issue its order before deciding this motion. Instead, the Court can assume that Morpho’s proposed claim constructions are correct for purposes of this motion. *See Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1326, 1332 (Fed. Cir. 2009) (affirming summary judgment of invalidity where the district court assumed patentee’s claim constructions were correct for summary judgment purposes). Further, the accused devices in this case are ion mobility spectrometers using a two-dryer regenerative drying system, and any claim construction that

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<sup>1</sup> Exhibits identified in this Brief are attached to the Declaration of Zaed M. Billah in Support of Defendant Smiths Detection Inc.’s Motion for Summary Judgment Regarding Invalidity, Laches, Failure to Mark, and No Willfulness, filed concurrently herewith.

could conceivably cover such devices would render the patent invalid for the reasons set forth herein.

On the issue of damages, Morpho concedes that it failed to mark its patented products pursuant to 35 U.S.C. § 287(a). Morpho also admits facts showing that Smiths' defense of laches is presumed. Accordingly, Smiths also moves for summary judgment that Morpho is not entitled to any pre-complaint damages.

Finally, Smiths' obviousness argument raises substantial questions as to the validity of the '670 patent—which precludes willful infringement. Accordingly, Smiths also moves for summary judgment that it did not willfully infringe the '670 patent.

## **II. STATEMENT OF THE ISSUES TO BE DECIDED BY THE COURT**

This motion presents four issues to be decided by the Court:

- (1) Are the Asserted Claims<sup>2</sup> invalid as obvious because each limitation of each asserted claim is present in the combination of U.S. Patent No. 3,513,631 and U.S. Patent No. 5,405,781 and these prior art patents teach or suggest their combination?
- (2) Is Morpho precluded from recovering pre-filing damages because it failed to mark its patented products?
- (3) Is Morpho's claim for pre-filing damages barred by laches because Morpho waited over six years to file suit against Smiths?
- (4) Can Smiths be found to willfully infringe when a substantial question of obviousness exists for each Asserted Claim?

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<sup>2</sup> "Asserted Claims" refers to claims 1, 4, 6-10, 12-14, 17, 20-21, 23-24, and 25 of the '670 patent.

### **III. STATEMENT OF UNDISPUTED MATERIAL FACTS**

#### **A. Facts Pertaining to Invalidity and Willfulness**

1. The '670 patent issued on November 9, 2004 and has a priority filing date of October 6, 1998. (Ex. A).

2. Before the invention date of each Asserted Claim, it was well known that the presence of water vapor in the air used by IMS detectors interferes with the detection capabilities of those detectors. (Ex. E at RFA No. 40; Ex. C at 2:51-55; 10:14-16).

3. The need to use dry air with IMS detectors was publicly known before the invention date of each Asserted Claim. (Ex. E at RFA Nos. 35-40; Ex. C at 2:18-19).

4. Before the invention date of each Asserted Claim, IMS detectors existed in the prior art that used dryers to provide a stream of dry air to the detector. (Ex. A at Fig. 1; Ex. C at Fig. 2 and 4:16; 5:50-67; 6:37-53) (Ex. E at RFA No. 41).

5. Before the invention date of each Asserted Claim (as shown, e.g., in Fig. 1 of the '670 patent, labeled "Prior Art," and described in the accompanying text of the '670 patent), it was known in the prior art that IMS detectors could operate in the following manner: particles of interest could be collected on a swab or trap (for instance by rubbing the trap across an object), and the trap could then be placed into a desorber that would heat the trap, thereby vaporizing the particles of interest. These vapors could then be carried on a stream of air into an IMS detector for detection. (Ex. A at Fig. 1, and 1:15-37; 1:57-2:13) (Ex. E at RFA No. 41).

6. U.S. Patent No. 3,513,631 (the "Seibert Patent") (Ex. B) issued on May 26, 1970, and is prior art to the '670 patent.

7. The Seibert Patent discloses a two-dryer regenerative drying system for producing a "substantially continuous flow of effluent gas" that "can be used for drying gases of all types,

such as for drying small flows of compressed gases in instrument air, inert gas, and purge systems to dry relatively large volumes of compressed air or gas for industrial or laboratory purposes, and also of relatively large capacity to provide air or gases having sub-zero dewpoints.” (Ex. B at 1:31-34; 10:15-21; 12:1-4; 12:44-47) (emphasis added).

8. The two-dryer regenerative drying system disclosed in the Seibert Patent operates as follows: air to be dried is routed by a valve to one of the dryers, which contains desiccant for drying the air. Dry air exits that dryer and most of it is output for use via a dry gas outlet. A portion of the dry air is routed through the second dryer, which is heated to above 100° C, to purge water from that dryer (i.e., to regenerate or reactivate the second dryer). Wet air from the second dryer (the purge exhaust) is routed through the valve and expelled. After a set period of time, but before the desiccant in the first dryer becomes too wet to dry the air, the valve switches and routes the air to be dried through the second dryer (which has now been regenerated). Dry air exits from that second dryer and most of it is output from the system via the dry gas outlet. A portion of that dry air is routed through the first dryer, which is also heated to a temperature above 100° C, to purge water from that dryer (i.e., to regenerate or reactivate the first dryer). This process repeats. (Ex. B at Fig. 1 and 1:15-40; 1:49-2:4; 2:22-29; 4:15-19; 4:46-47; 4:56-62; 4:71-6:2).

9. U.S. Patent No. 5,405,781 (the “Davies Patent”) (Ex. C), assigned to a Smiths’ predecessor, issued on April 11, 1995 and is prior art to the ‘670 patent.

10. The Davies Patent discloses an IMS detector drying system including a regenerative dryer for providing a stream of dry air to the detector. The IMS detector also makes use of a swab or trap that is placed onto a desorber that heats the trap to vaporize particles of interest on the trap. The stream of dry air passes through holes in the desorber and through the

trap to carry the vapors into the IMS detector where they can be detected. The dryer system uses a desiccant-containing dryer that can be heated to regenerate it. (Ex. C at Figs. 1, 2 and 1:6-9; 2:6-7; 2:14-19; 2:38-3:2; 4:27-5:20; 5:50-6:2; 6:37-43).

11. By agreement of the parties, a person of ordinary skill in the art taught by the ‘670 patent would have (1) at least a B.S. in mechanical engineering, chemical engineering, physics, or chemistry (or equivalent experience), and (2) at least three years of work experience in designing pneumatics and gas purification systems for analytical instruments. (Ex. G at 12).

#### **B. Facts Pertaining to Laches**

12. Morpho filed its complaint against Smiths on September 2, 2011. (Dkt. No. 1).

13. Before September 2, 2005, Morpho was aware that the IonScan 500DT was offered for sale in the U.S. (Ex. E at RFA No. 26).

14. On or about May of 2005, Morpho became aware that Smiths’ IonScan 500DT was advertised as including a “regenerative Air Purification System (APS).” (Ex. E at RFA No. 27).

#### **C. Facts Pertaining to Failure to Mark**

15. From September 1, 2005 to September 1, 2011, Morpho sold patented products but failed to mark those products with the number of the ‘670 patent. (Ex. E at RFA Nos. 1-18).

16. Morpho did not provide actual notice of alleged infringement until its suit was filed on September 2, 2011. (Ex. E at RFA Nos. 19-25).

### **IV. ARGUMENT**

Summary judgment should be granted where there is no genuine issue of material fact and the movant is entitled to judgment as a matter of law. FED. R. CIV. P. 56(a); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). To rebut a motion for

summary judgment, a nonmoving party must offer admissible evidence that establishes a genuine issue of material fact, not just “some metaphysical doubt as to the material facts.” *See, e.g., id.* at 586. While patent challengers bear the burden of proving invalidity by clear and convincing evidence (*see Bristol-Meyers Squibb Co. v. Ben Venue Lab., Inc.*, 246 F.3d 1368, 1374 (Fed. Cir. 2001)), district courts “should not hesitate to avoid an unnecessary trial by proceeding under Fed. R. Civ. P. 56” where there is no genuine issue of material fact regarding the invalidity of patent claims. *Chore-Time Equip., Inc. v. Cumberland Corp.*, 713 F.2d 774, 778-79 (Fed. Cir. 1983).

#### **A. Obviousness**

A patent is invalid as obvious “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a); *see also KSR*, 550 U.S. 398. “Obviousness is a question of law based on underlying findings of fact.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1237 (Fed. Cir. 2010). These “underlying factual inquiries include (1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, (3) the level of ordinary skill in the art, and (4) any relevant secondary considerations, such as commercial success, long felt but unsolved needs, and the failure of others.” *Id.*

The Federal Circuit has affirmed grants of summary judgment of invalidity based on obviousness. *See, e.g., Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978 (Fed. Cir. 2006); *Iron Grip Barbell Co. v. U.S. Sports, Inc.*, 392 F.3d 1317 (Fed. Cir. 2004); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714 (Fed. Cir. 1991); *Union Carbide Corp. v. Am. Can Co.*, 724 F.2d 1567 (Fed. Cir. 1984). In the context of an obviousness analysis, if “the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material

dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.” *KSR*, 550 U.S. at 427.

The determination of obviousness must take place through the eyes of a person of ordinary skill in the art, *i.e.*, a hypothetical person who is presumed to be aware of all prior art in the field of invention and any analogous fields. *See In re Gorman*, 933 F.2d 982, 986 (Fed. Cir. 1991). The person of ordinary skill in the art is “able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR Int’l*, 550 U.S. at 420. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *Id.* at 421.

Thus, when “a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.” *Id.* at 417 (quoting *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976) (internal quotations omitted)). A claimed invention may also be obvious under § 103 if it would have been obvious for one of ordinary skill in the art to try a particular solution:

[When] there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reasons to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance, the fact that a combination was obvious to try might show that it was obvious under section § 103.

*Id.* at 423-24. Simply put, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 416.

Further, where “all of the limitations of the patent were present in the prior art references, and the invention was addressed to a ‘known problem,’ ‘*KSR* . . . compels the grant of summary judgment of obviousness.’” *Wyers*, 616 F.3d at 1240 (emphasis added) (citing *Ball Aerosol & Specialty Container, Inc. v. Limited Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009)); *see also*



*Sundance Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356 (Fed. Cir. 2008); *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009); *Media Techs. Licensing, LLC v. Upper Deck Co.*, 596 F.3d 1334 (Fed. Cir. 2010); *Dow Jones & Co. v. Abblaise Ltd.*, 606 F.3d 1338 (Fed. Cir. 2010); *Tokai Corp. v. Easton Enters.*, 632 F.3d 1358 (Fed. Cir. 2011); *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 2012 U.S. App. LEXIS 12834 (Fed. Cir. 2012).

### **1. The ‘670 Patent and its Prosecution History**

The ‘670 patent issued on November 9, 2004 and has a priority filing date of October 6, 1998. (Ex. A). Although the ‘670 patent discloses several features of detectors generally, all of the Asserted Claims are directed to the use of a two-dryer drying system to provide dry air to a detector and most of the claims further specify that one or both of the dryers are rechargeable. Claims 1 and 24 of the ‘670 patent are exemplary and are reproduced below.

1. A detector apparatus comprising: a detector for detecting trace amounts of particles of interest carried on a stream of air; two dryers in communication with the stream of air; at least one valve in communication with the dryers for selectively placing a first of the dryers in communication with the detector; and at least one heater for selectively recharging a second of the dryers while the first dryer is in communication with the detector.

24. A method for continuously operating a detector for detecting whether an object has any particles of interest, said method comprising:

operating a first dryer;

directing a stream of air through the first dryer for transferring water from the stream of air to the first dryer;

recharging a second dryer for purging water from the second dryer while the stream of air is directed through the first dryer; and

redirecting the stream of air through the second dryer after the second dryer has been at least partly recharged and before the first dryer has become saturated with water; and

recharging the first dryer while the stream of air is directed through the second dryer.

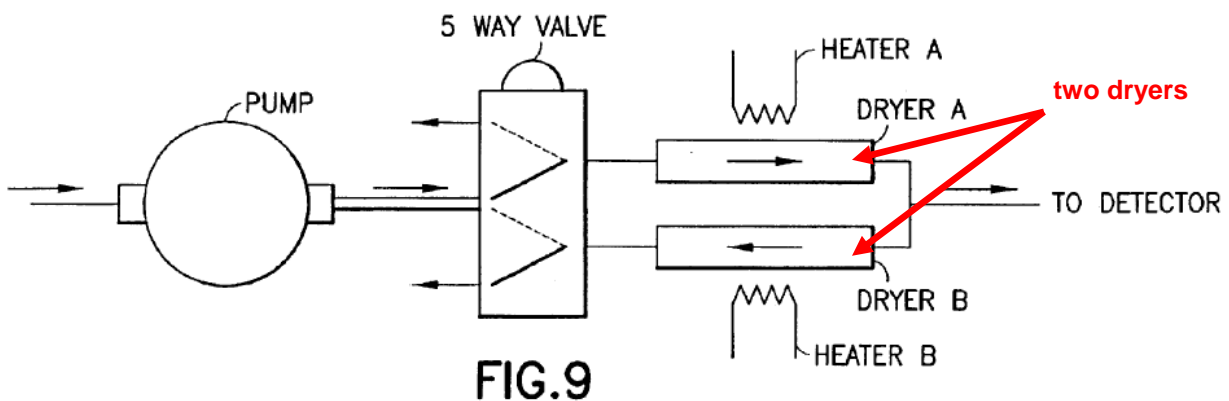
As can be gleaned from these claims, the Asserted Claims are not about inventive IMS technology—they are about drying air with one of two alternating dryers. Indeed, the Examiner who allowed the claims explained that he was doing so because he was unaware of prior art having two dryers, where the first dryer is in communication with the detector while the second dryer is being recharged. (*See* Dkt. No. 44-7 at MDI 00834-36). For example, the Examiner allowed claim 1 of the ‘670 patent because:

Specifically, no teaching or obvious suggestion was found of the limitation “at least one valve in communication with the dryers for selectively placing a first of the dryers in communication with the detector; and at least one heater for selectively recharging a second of the dryers while the first dryer is in communication with the detector” as in claims 1 . . . .

(Dkt. No. 44-7 at MDI 00834). It is important to note that the Examiner was not provided any prior art references disclosing two regenerative dryers, such as that of the Seibert Patent, so the Examiner could not have considered them during examination of the ‘670 patent. *See Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2251, 180 L. Ed. 2d 131 (2011) (“Simply put, if the

PTO did not have all material facts before it, its considered judgment may lose significant force.”).

Although the Asserted Claims are about drying air, the large majority of the ‘670 patent specification does not concern the two-dryer configuration that is central to each of the Asserted Claims. Instead, the claimed two-dryer configuration is described only briefly and at a high level in a single paragraph of the specification (at 5:66-6:16), and shown in only one figure (Figure 9). The sole embodiment of the two-dryer configuration disclosed by the ‘670 patent uses a valve in communication with the two dryers to alternate which one of the dryers is drying and which one is being regenerated:



(‘670 patent at Fig. 9). In the sole embodiment, while Dryer A dries the air flowing to the detector, Dryer B is recharged by Heater B. (‘670 patent at 5:66-6:16). A portion of the dry air output from Dryer A is directed in a reverse direction through Dryer B to purge water from Dryer B. (*Id.*). After the valve is switched to its other position, Dryer B now dries the air flowing to the detector and Dryer A is recharged by Heater A. (*Id.*). A portion of the dry air output from Dryer B is directed in the reverse direction through Dryer A to purge water from Dryer A. (*Id.*).

## 2. The Scope and Content of the Prior Art

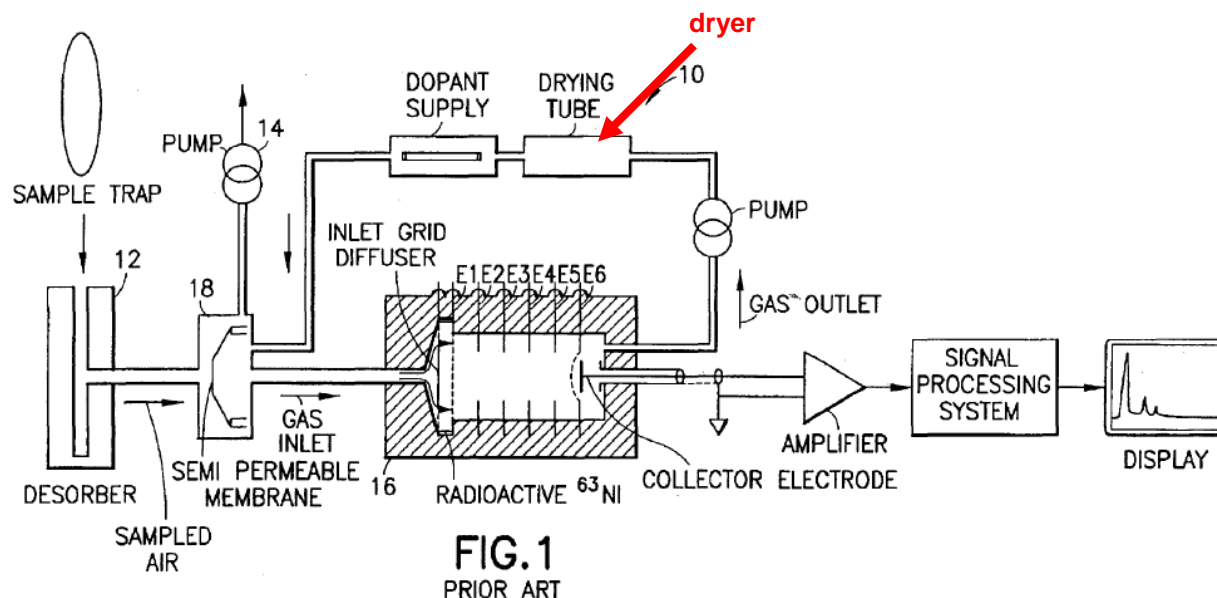
### a. The Admitted Prior Art Includes IMS Detectors with Dryers for Supplying Dry Air.

Before the '670 patent, detectors with drying systems existed for detecting materials of interest, such as narcotics and explosives. ('670 patent at 1:15-18). These prior art detectors were used in public facilities, such as airports, to detect and prevent the introduction of explosives and to detect and deter narcotics traffic. ('670 patent at 1:24-26). As further described in the "Background of the Invention" section of the '670 patent:

The prior art detection systems rely upon the fact that trace amounts of contraband will be transferred to the body of a person who had handled the contraband and subsequently will be transferred from the body to any article the person may be carrying (e.g., purse, suitcase, backpack, etc.). Trace amounts of contraband may be collected for analysis by wiping a small sheet-like wipe or trap across the purse, suitcase, backpack or other article of the suspect. The prior art wipe or trap then is inserted into a prior art detection apparatus which tests for the presence of certain contraband particles or vapors.

('670 patent at 1:28-38). These prior art detectors conventionally used IMS to detect the presence of materials of interest.

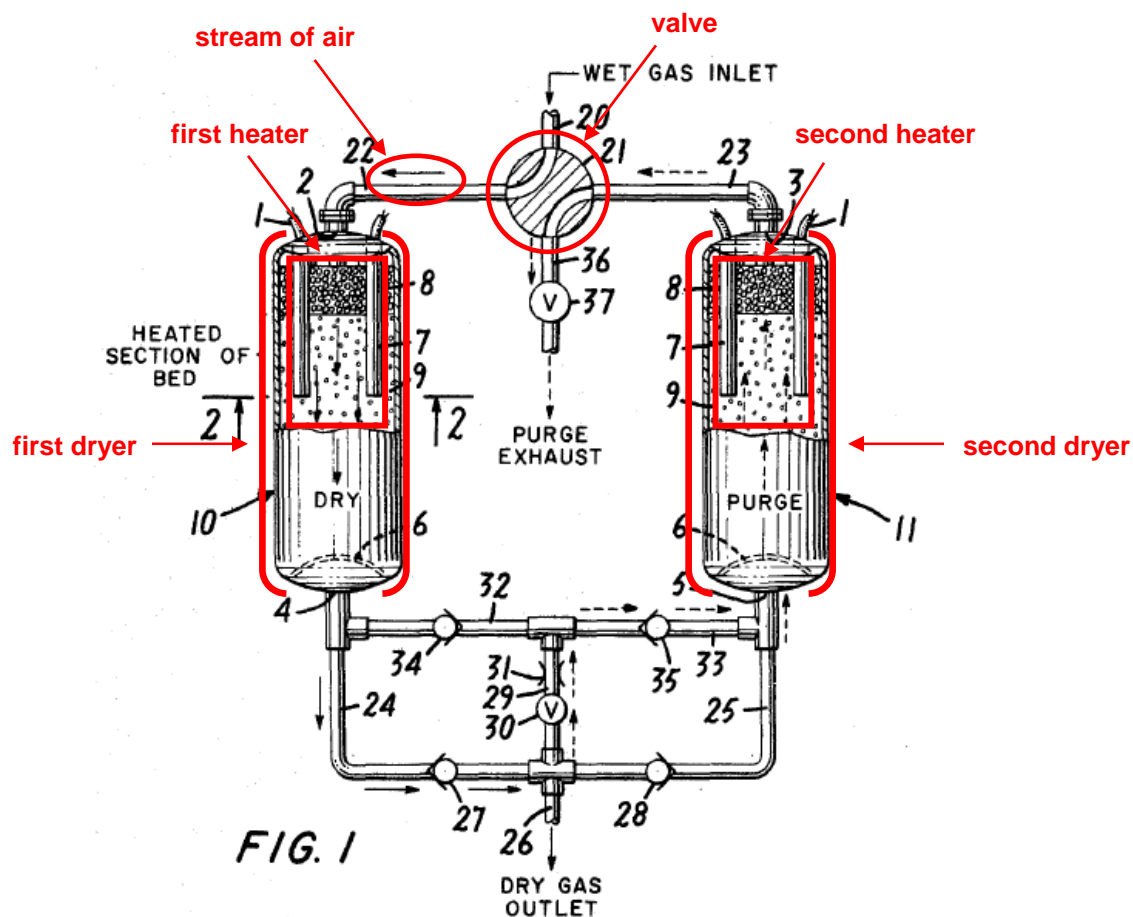
Morpho admits that before the invention date of each Asserted Claim, it was well known that the presence of water vapor in the air used by IMS detectors interferes with the detection capabilities of those detectors. (Ex. E at RFA No. 40). Thus, the need to use dry air with IMS detectors was likewise known before the invention date of each Asserted Claim. (Ex. E at RFA Nos. 35-40). As conceded by Morpho and in the '670 patent itself, prior art IMS detection systems addressed this need by utilizing a dryer to produce dry air used by the IMS detector:



(‘670 patent at Fig. 1; *see also* Ex. E at RFA No. 41). Such dryers might contain desiccant (e.g., absorbent material such as calcium sulfate or molecular sieve) that would adsorb water from the air flowing through the dryer. Eventually, a desiccant-type dryer will become saturated and can no longer effectively dry the air flowing through the dryer. At this point, the desiccant needs to be either replaced or recharged (also known as being “regenerated” or “reactivated”). As the parties agree, “recharging” is “restoring drying capacity by removing water.” (Dkt. No. 51-2 at 1).

**b. The Seibert Patent Discloses General Purpose Regenerative Dryers Exactly Like Those Disclosed in the ‘670 Patent for Supplying Dry Air.**

The Seibert Patent issued on May 26, 1970 and is prior art to the ‘670 patent under 35 U.S.C. § 102(b). The Seibert Patent discloses a general purpose regenerative drying system that switches between two dryers, where one dryer is used to dry a stream of air while the second dryer is recharged by routing dry air from the first dryer in the reverse direction through the second dryer while heating the second dryer:

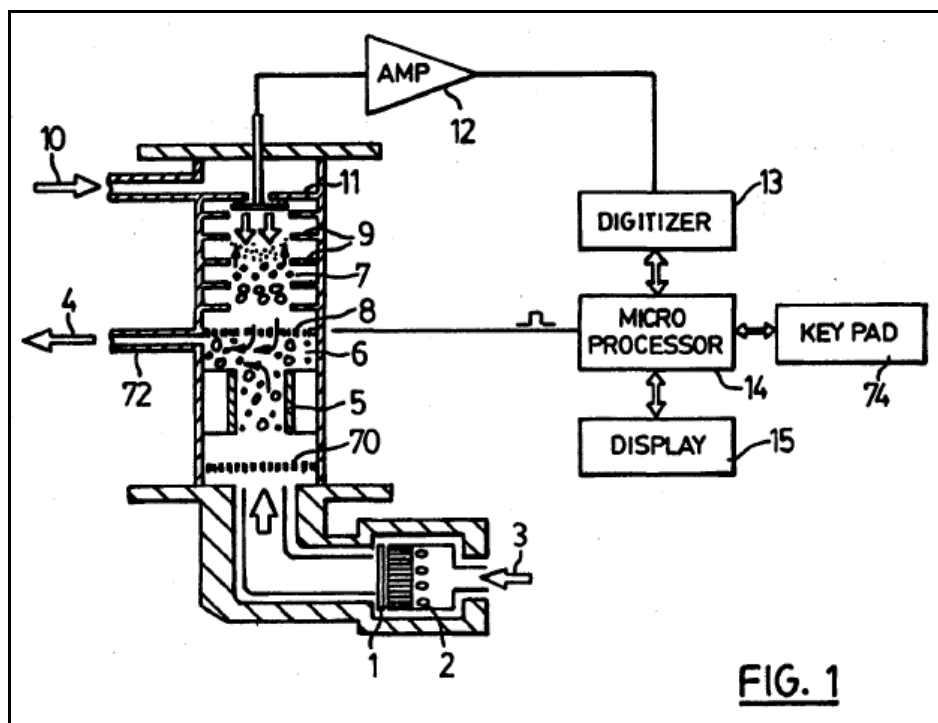


(Seibert Patent at Fig. 1, *see also* 4:71-6:20) (red annotations added). Indeed, the Seibert Patent states that “[t]he tanks 10 and 11 are interconnected by a system of lines, to ensure delivery of influent gas to be dried to the inlet of either bed, and the withdrawal of dried gas from the outlet of either bed, with lines for directing purge flow bled off from the effluent to the top of either bed for regeneration, and to vent it to atmosphere after leaving the bottom of each bed.” (Seibert Patent at 5:12-18). After a predetermined cycle time, the system switches to the second dryer to dry the stream of air while the first dryer is recharged by heating the first dryer. (Seibert Patent at 5:53-72). This functionality maintains a “substantially continuous flow of effluent gas.” (Seibert Patent at 1:31-34; 12:1-4; 12:44-47). Although these sorts of prior art references disclosing two-dryer regenerative drying systems were well known in the art, they were not

considered by the USPTO during prosecution of the '670 patent. (See Dkt. Nos. 44-7, 44-8, 44-10).

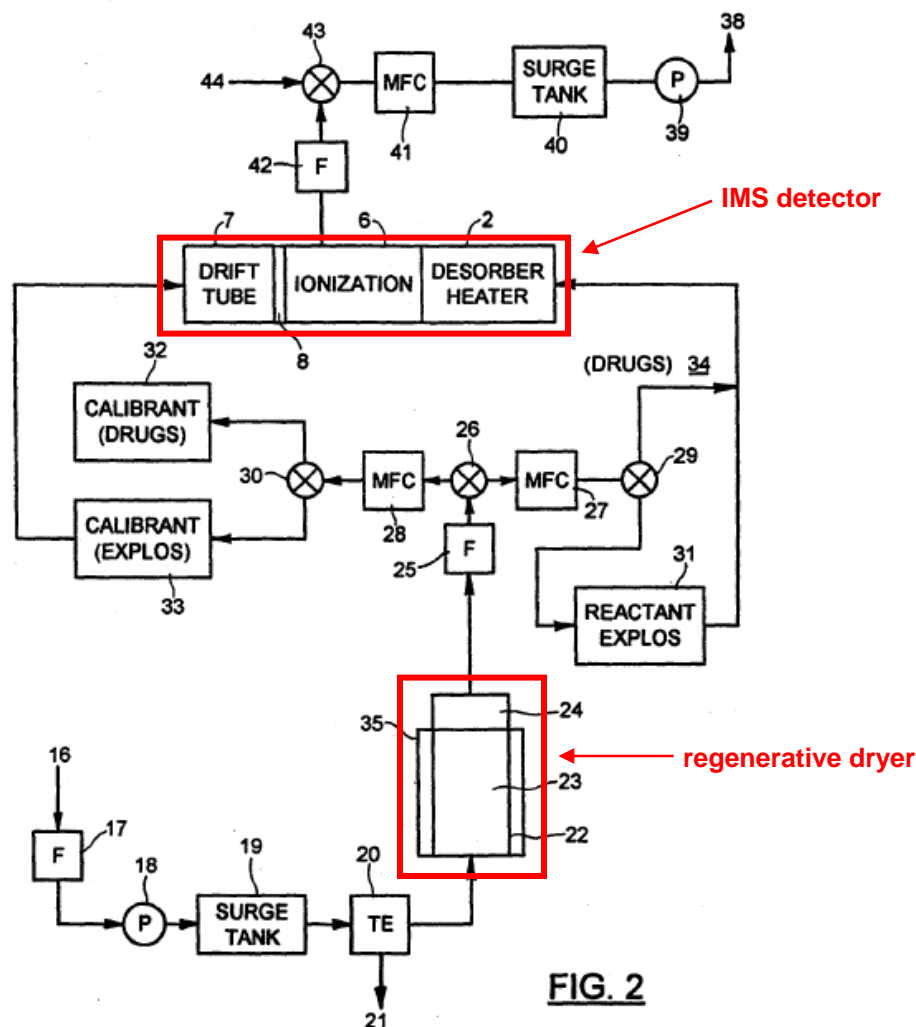
**c. The Davies Patent Discloses an IMS Detector with a Regenerative Dryer for Supplying Dry Air.**

The Davies Patent issued on April 11, 1995 and is prior art to the '670 patent under 35 U.S.C. § 102(b). The Davies Patent discloses an IMS detector as shown in Figure 1 of the '781 patent:



(Davies Patent at Fig. 1). The Davies Patent discloses an “air flow circuit” for this IMS detector where a one-dryer regenerative drying system provides dry air to this IMS detector:<sup>3</sup>

<sup>3</sup> The Davies Patent also discloses a second dryer (i.e., a thermo-electric chiller), but this dryer is not a “dryer” within Morpho’s definition. As this distinction is not material to this Motion, Smiths assumes for the purposes of this motion only that a thermo-electric chiller is not a “dryer.”



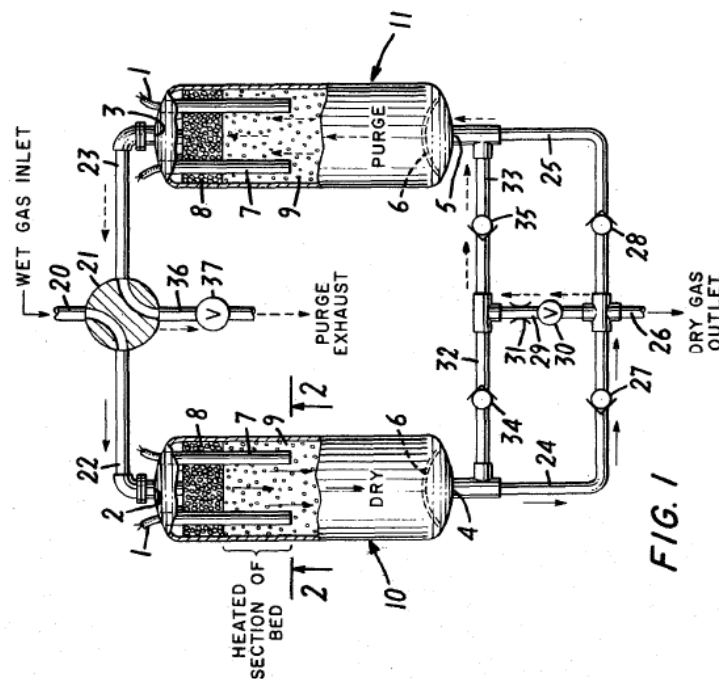
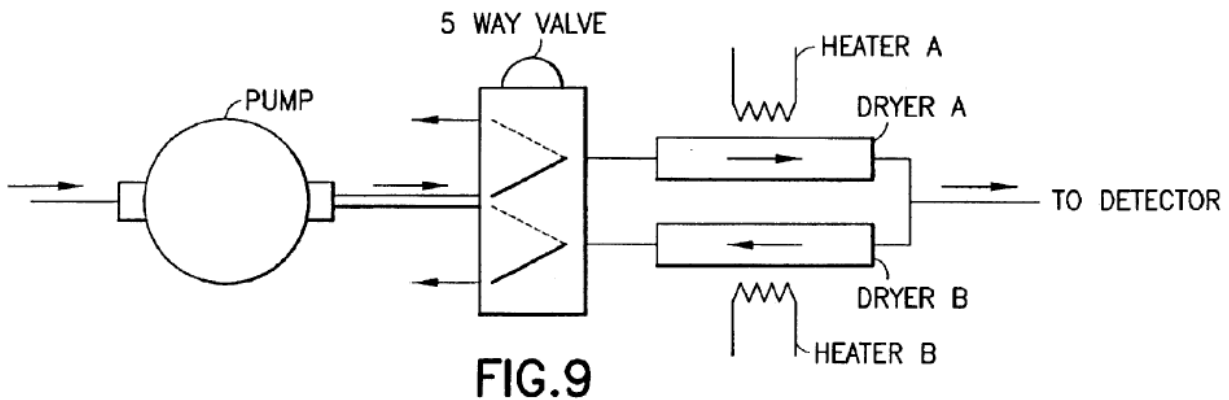
(Davies Patent at Fig. 2; *see also* 4:16; 5:50-67; 6:37-53) (red annotations added). The Davies Patent further discloses that a heater is used to regenerate the regenerative dryer, specifically stating that “the second-stage drier material can be reactivated by in situ heating, shown at 35. In a known manner, the absorbent or drying agent in the tube 22 can include a color indicator to indicate the state of the absorbent, which in turn enables the activation to be carried out at appropriate times.” (Davies Patent at 6:41-46; *see also* claim 5; claim 15).

### 3. The Differences Between the Prior Art and the Claimed Invention

As previously discussed, the alleged invention is the use of a two-dryer regenerative drying system with a detector instead of a one-dryer system in order to provide a continuous flow



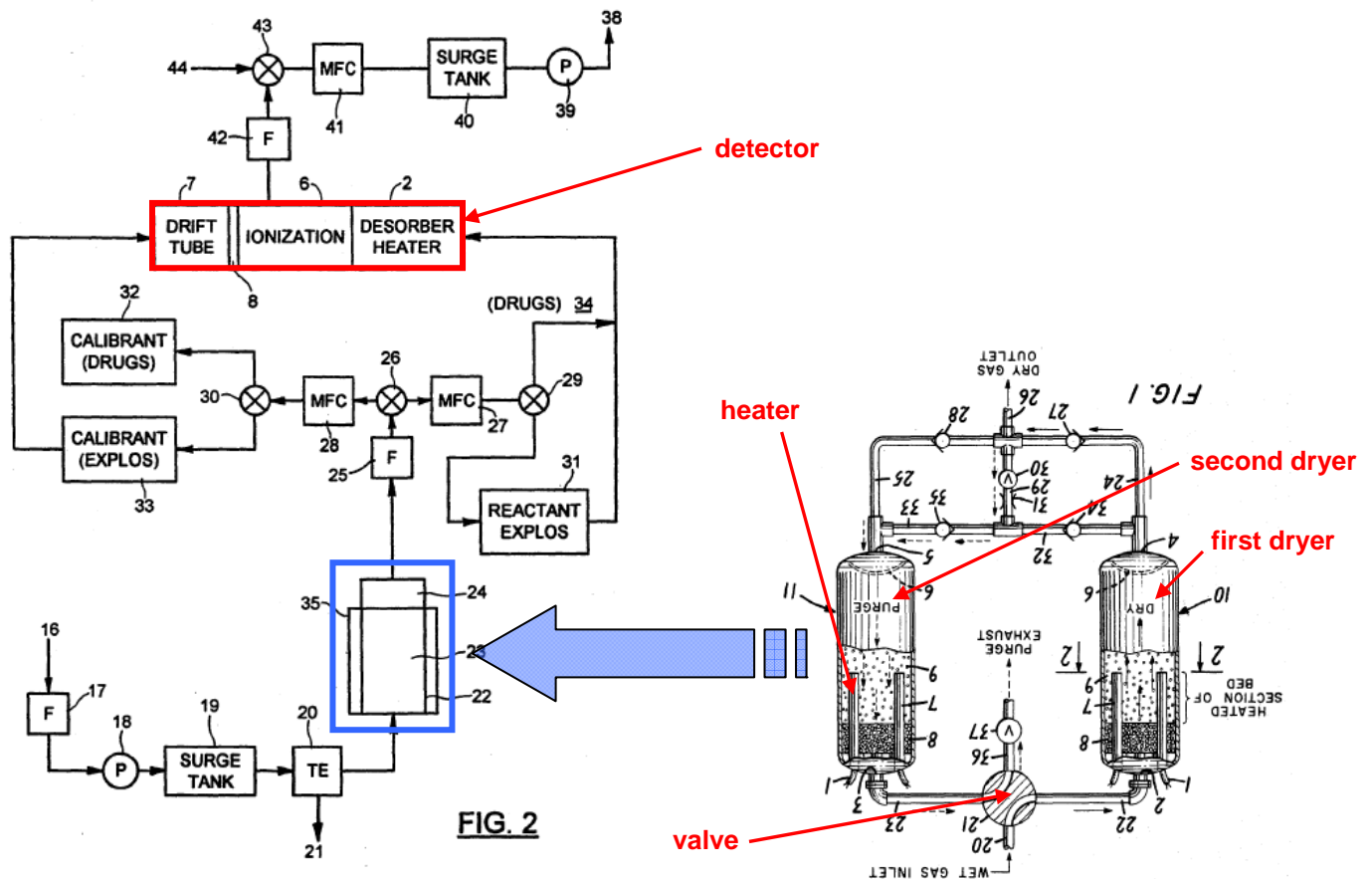
of dry air to the detector. Every Asserted Claim requires the implementation or use of a two-dryer system. One need only rotate Fig. 1 of the Seibert Patent to see the striking similarity between Fig. 9 of the '670 patent and the Seibert Patent's drying system:



('670 patent at Fig. 9; Seibert Patent at Fig. 1). Although the prior art Seibert Patent provides much greater detail about regenerative dryers than does the '670 patent, the drying system disclosed in the '670 patent is the same as the drying system of the prior art Seibert Patent in every significant respect. In other words, the allegedly inventive regenerative dryer system

disclosed in the '670 patent is simply a rudimentary rendering of the regenerative dryer system disclosed in the prior art Seibert Patent.

The one-dryer regenerative drying system disclosed in the Davies Patent can be substituted with the two-dryer regenerative drying system disclosed in the Seibert Patent such that the combined system discloses each and every limitation of each Asserted Claim. The Seibert Patent's two-dryer regenerative drying system can simply be rotated and inserted in place of the Davies Patent's one-dryer regenerative drying system, as indicated below.



This combination results in an IMS detector that uses a two-dryer regenerative drying system in exactly the manner that Morpho contends is claimed in the '670 patent. As more fully described in Exhibit D, this combination discloses each and every limitation of all of the Asserted Claims.

With respect to the invalidity analysis set forth herein and in Exhibit D, Smiths applies Morpho's claim constructions for the sole purpose of this motion. Since the claims, as Morpho construes them, are invalid as a matter of law, the burden of a trial can be avoided.<sup>4</sup> In any event, the only difference between the parties' proposed claim constructions that potentially affects the analysis set forth herein is with respect to the term "particles of interest." Morpho's proposed construction for the term "particles of interest" is "vaporized organic compounds such as narcotics or explosives." (Dkt. No. 51-2 at 2 (emphasis added)). Smiths' proposed construction for the term "particles of interest" is "solid materials of interest that are not vapors." (*Id.*). As such, there is a fundamental difference between the parties' constructions—Morpho's construction requires vapors whereas Smiths' construction explicitly excludes vapors. Claims 1, 4, 6-10, 20-21, 23, and 25 of the '670 patent each contain a limitation of "detecting trace amounts of particles of interest carried on a stream of air" or "detecting particles of interest."<sup>5</sup> Also, claim 25 of the '670 patent contains limitations of delivering or transporting "potential particles of interest into the detector." Under Morpho's constructions, IMS detectors (which detect only vapors) would detect particles of interest as required by these claims; under Smiths'

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<sup>4</sup> Smiths otherwise fully supports the correctness of its proposed claim constructions in all respects.

<sup>5</sup> Claims 12-14, 17 and 24 are not affected by this issue. Claims 12-14 and 17 call for the detection of materials of interest, not particles of interest, and claim 24 calls only for detecting whether an object has particles of interest.

constructions, they would not.<sup>6</sup> However, as noted, for purposes of this motion only, Smiths is assuming the correctness of Morpho's claim constructions.<sup>7</sup>

#### **4. The Level Of Ordinary Skill In The Art Is High**

The parties agree that a person of ordinary skill in the art taught by the '670 patent would have (1) at least a B.S. in mechanical engineering, chemical engineering, physics, or chemistry (or equivalent experience), and (2) at least three years of work experience in designing pneumatics and gas purification systems for analytical instruments. (Ex. G at 12).

#### **5. The Combination of the Seibert Patent and the Davies Patent Renders the Asserted Claims Invalid as Obvious.**

Each Asserted Claim is invalid as obvious because all the limitations of the '670 patent are present in prior art references and the invention addresses a "known problem" (i.e., providing dry air to an IMS detector). *Wyers*, 616 F.3d at 1240. All the limitations, when construed as Morpho proposes, are present in the combination of the Seibert and Davies Patents as shown in Exhibit D. The Davies Patent expressly discusses how IMS detectors require a stream of dry air.

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<sup>6</sup> The parties do not dispute the fact that IMS detectors only detect vaporized substances, not solid substances. (*See, e.g.*, Morpho's Opening Brief on Claim Construction (Dkt. No. 45 at 10 ("Because IMS detectors only detect vaporized substances, the term 'particles of interest' must be construed as vaporized organic compounds such as narcotics or explosives.")). Similarly, the parties do not dispute the fact that only vaporized materials are delivered into the IMS detector. (*See, e.g.*, Morpho's Responsive Brief on Claim Construction (Dkt. No. 48 at 8 ("Again only vaporized materials are delivered to the actual detector of the device.")).

<sup>7</sup> The parties do not dispute that the accused products are IMS detectors. (*Id.* at 8 ("Barringer Technologies Inc.'s Ion Scan Detection System—a predecessor to the IMS detection instrument currently accused of infringement in this case.")). Accordingly, even if the Court were to adopt Smiths' proposed construction for "particles of interest," if Morpho were to continue to assert Claims 1, 4, 6-10, 20-21, 23, and 25 against Smiths, then it must necessarily be Morpho's factual contention that IMS detectors with dual regenerative dryers meet the claims. Such a position would render the claims invalid for the reasons set forth herein. *See Evans Cooling Sys. v. General Motors Corp.*, 125 F.3d 1448, 1451 (Fed. Cir. 1997) ("Although GM bore the burden of proving that the LT1 engine embodied the patented invention or rendered it obvious for purposes of the summary judgment motion, this burden is met by Evans' allegation, forming the sole basis for the complaint, that the LT1 engine infringes.").

(Ex. C at, e.g., 2:14-19). Morpho even concedes, as it must, that the need for dry air in an IMS detector was a known problem. (Ex. E at RFA No. 36, 40). There is no reason why a person of ordinary skill in the art addressing this problem would not naturally use Seibert's general purpose two-dryer regenerative drying system. Thus, the Supreme Court's opinion in *KSR* compels the grant of summary judgment of obviousness. *Wyers*, 616 F.3d at 1240 (citing *Ball Aerosol*, 555 F.3d at 993).

This is especially true since the teaching or suggestion to combine the Seibert Patent with the Davies Patent comes from the patents themselves. The Seibert Patent explicitly states that “[t]he dryers in accordance with the invention can be used for drying gases of all types, such as for drying small flows of compressed gases in instrument air, inert gas, and purge systems to dry relatively large volumes of compressed air or gas for industrial or laboratory purposes . . .” while the Davies Patent explicitly states that its IMS detection system requires a stream of dry air and is an “instrument” that is useful in industrial or laboratory situations. (Seibert Patent at 10:15-21) (emphasis added) (Davies Patent at 2:9-27; 3:50; 3:66; 7:59). Furthermore, the Davies Patent already discloses at least a one-dryer regenerative drying system for reducing the moisture level in the air used in the IMS detector. (Davies Patent at 5:29-6:56). A person of ordinary skill in the art familiar with the Seibert Patent would know that a two-dryer regenerative drying system could provide a continuous stream of dry air to the detector in place of the one-dryer regenerative drying system. Thus, the use of a two-dryer regenerative drying system (as disclosed in the Seibert Patent) as a substitute for the one-dryer regenerative drying system (as disclosed in the Davies Patent)—and any benefits derived from this substitution—is nothing more than the “predictable use of prior art elements according to their established functions” which renders the claims of the ‘670 patent obvious as a matter of law. *Wyers*, 616 F.3d at 1245

(citing *KSR*, 550 U.S. at 417). Indeed, *KSR* held that “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 550 U.S. at 416. As the Asserted Claims do no more than yield a predictable result, they are invalid.

**6. Morpho’s Purported Secondary Considerations Are Inadequate To Establish Nonobviousness As a Matter of Law.**

Morpho contends that commercial success, long-felt but unresolved need, and copying are secondary considerations that support nonobviousness. (Ex. F at 7). These purported secondary considerations are inadequate as a matter of law for two reasons. First, Smiths has shown a strong *prima facie* case of obviousness. Thus, Morpho’s purported secondary considerations must be rejected because “secondary considerations of non-obviousness . . . simply cannot overcome a strong *prima facie* case of obviousness.” *Wyers*, 616 F.3d at 1246 (citing, *inter alia*, *Agrizap Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007)); *see also Perfect Web*, 587 F.3d at 1333 (finding secondary considerations legally insufficient to raise a genuine issue of material fact); *Ball Aerosol*, 555 F.3d at 994 (“[M]inimal indications of commercial success argued by BASC do not outweigh the clear indication of obviousness apparent from the prior art”). Where, as here, “the inventions represented no more than ‘the predictable use of prior art elements according to their established functions,’ *KSR*, 550 U.S. at 417, the secondary considerations are inadequate to establish nonobviousness as a matter of law.” *Wyers*, 616 F.3d at 1246 (emphasis added).

Second, “[f]or objective evidence of secondary considerations to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the *claimed invention*.” *In re Huang-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (internal quotations

omitted) (emphasis in original). No nexus exists if the commercial success, copying, etc. are instead tied to material that was known in the prior art. In other words, here, because “the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention.” *Id.* (emphasis in original).

The Seibert Patent discloses two-dryer regenerative air drying systems having well known benefits. Thus, any commercial success that Morpho could point to is simply a natural, expected result of the known benefits of these prior art systems. Likewise, any assertion of copying is incorrect as this “copying” is not of the ‘670 patent but that of the Seibert Patent’s system for its known benefits. All of Morpho’s purported secondary considerations must be rejected as a matter of law because Morpho cannot establish a nexus between the purported secondary considerations and something that was not known in the prior art. This is especially true with respect to Morpho’s contentions of commercial success and copying. *Tokai Corp.*, 632 F.3d at 1369 (“If commercial success is due to an element in the prior art, no nexus exists.”); *Wm. Wrigley Jr.*, 2012 U.S. App. LEXIS 12834 at \*18 (“However, as the district court observed, just as with the commercial success analysis, a nexus between the copying and the novel aspects of the claimed invention must exist for evidence of copying to be given significant weight in an obviousness analysis.”) (internal quotations omitted).<sup>8</sup>

Furthermore, Morpho’s argument that there was a “long felt but unresolved need for a regenerative dryer system” actually supports Smiths obviousness position. (Ex. F at 7). As

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<sup>8</sup> Additionally, Morpho’s contention of “copying” fails because it only contends that Smiths uses a regenerative drying system in its products. Thus, Morpho fails to provide any “evidence of efforts to replicate a specific product” and thus its contention must be rejected as a matter of law for this reason as well. *Wyers*, 616 F.3d at 1246.

previously mentioned, regenerative drying systems were already known in the prior art. (*See, e.g.,* the Seibert Patent). As such, any purported “need for a regenerative dryer system” actually supports a conclusion of obviousness because that need provides a motivation to combine the Seibert Patent with the Davies Patent. *See KSR*, 550 U.S. at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of the invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”) (emphasis added). Moreover, Morpho’s argument fails because Morpho can offer no evidence to explain how long any purported need was felt, when the problem first arose, or any failed efforts to solve that problem. *See Perfect Web*, 587 F.3d at 1332-33 (citing *Tex. Instruments v. Int’l Trade Comm’n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993)).

For all of the reasons set forth above, the asserted claims of the ‘670 patent are, as a matter of law, obvious.

## **B. Laches**

“Where the defense of laches is established, the patentee’s claim for damages prior to suit may be barred.” *A.C. Aukerman Co. v. R.L. Chaides Construction Co.*, 960 F.2d 1020, 1028 (Fed. Cir. 1992) (en banc). “Two elements underlie the defense of laches: (a) the patentee’s delay in bringing suit was unreasonable and inexcusable, and (b) the alleged infringer suffered material prejudice attributable to the delay.” *Id.* “A presumption of laches arises where a patentee delays bringing suit for more than six years after the date the patentee knew or should have known of the alleged infringer’s activity.” *Id.* The ‘670 patent issued on November 9, 2004. (Ex. A). Morpho filed its complaint against Smiths on September 2, 2011. (Dkt. No. 1). Morpho admits that before September 2, 2005, it was aware that the IonScan 500DT was offered for sale in the U.S. (Ex. E at RFA No. 26). Morpho further admits that “[o]n or about May of



2005, Morpho became aware that Smiths' IonScan 500DT was advertised as including a 'regenerative Air Purification System (APS).'" (Ex. E at RFA No. 27). As such, Morpho knew or should have known of the alleged infringement in May 2005—more than six years prior to filing suit in September 2011. *See Wanlass v. General Electric Co.*, 148 F.3d 1334, 1338 (Fed. Cir. 1998) ("For example, sales, marketing, publication, or public use of a product similar to or embodying technology similar to the patented invention, or published descriptions of the defendant's potentially infringing activities, give rise to a duty to investigate whether there is infringement.") (citing *Hall v. Aqua Queen Mfg., Inc.*, 93 F.3d 1548, 1553 (Fed. Cir. 1998)). Accordingly, laches is presumed and Smiths is entitled to summary judgment that Morpho is not entitled to claim any damages prior to September 2, 2011. *Id.*; *Auckerman*, 960 F.2d at 1028.

### **C. Failure to Mark**

Under the Patent Act, if Morpho failed to mark its patented products, damages are foreclosed "except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice. Filing of an action for infringement shall constitute such notice." *U.S. Philips Corp. v. Iwasaki Elec. Co.*, 505 F.3d 1371, 1375 (Fed. Cir. 2007) (quoting 35 U.S.C. § 287(a)). Morpho concedes that from September 1, 2005 to September 1, 2011, it sold patented products but failed to mark those products with the number of the '670 patent. (Ex. E at RFA Nos. 1-18). Furthermore, "actual notice under § 287(a) 'requires the affirmative communication of a specific charge of infringement by a specific accused product or device.'" *Id.* (quoting *Amsted Indus. Inc. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994)). Morpho concedes that it provided no such actual notice until its suit was filed on September 2, 2011. (Ex. E at RFA Nos. 19-25). Therefore, Smiths is entitled to summary judgment that Morpho failed to comply with

35 U.S.C. § 287(a) and that Morpho is not entitled to claim any damages resulting from acts taken by Smiths prior to September 2, 2011. *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1345 (Fed. Cir. 2001) (“When a patented article has been produced by a patentee or its licensee, the amount of damages the patentee can recover in an infringement suit is statutorily limited to those acts of infringement that occurred after the patentee gave the alleged infringer ‘notice of infringement.’”).

#### **D. No Willfulness**

“[P]roof of willful infringement permitting enhanced damages requires at least a showing of objective recklessness.” *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc). As a threshold matter, in order to establish willfulness, a “patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.” *Id.* And, the issue of whether this objective prong of *Seagate* is met is a matter of law. *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003, 1008 (Fed. Cir. 2012) (“the ultimate legal question of whether a reasonable person would have considered there to be a high likelihood of infringement of a valid patent should always be decided as a matter of law by the judge.”). “This ‘objective’ prong of *Seagate* tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement.” *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1319 (Fed. Cir. 2010) (citing *DuPuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1336-37 (Fed. Cir. 2009)). “Under this objective standard, both legitimate defenses to infringement claims and credible invalidity arguments demonstrate the lack of an objectively high likelihood that a party took actions constituting infringement of a valid patent.” *Black & Decker, Inc. v. Robert Bosch Tool Corp.*, 260 Fed. Appx. 284, 291 (Fed. Cir. 2008)

(nonprecedential); *see also Spine Solutions*, 620 F.3d at 1319-20 (judgment as a matter of law of no willfulness appropriate when defendant raised a “substantial question as to obviousness” of the patent-in-suit). As shown above, a substantial (indeed, dispositive) question as to obviousness exists for each Asserted Claim as a matter of law. Therefore, Smiths is entitled to summary judgment that Smiths did not willfully infringe the ‘670 patent.

## **V. CONCLUSION**

For the foregoing reasons, Smiths respectfully requests that the Court grant Smiths’ motion for summary judgment that the asserted claims of the ‘670 patent are invalid as obvious. Smiths also respectfully requests that the Court grant Smiths’ motion for summary judgment that Morpho is not entitled to pre-complaint damages because (i) Morpho failed to mark its products under 35 U.S.C. § 287(a), and (ii) any pre-complaint damages are barred by laches. Finally, Smiths respectfully requests that the Court grant Smiths’ motion for summary judgment that it did not willfully infringe the ‘670 patent.

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Respectfully submitted,

/s/

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**CERTIFICATE OF SERVICE**

I hereby certify that on August 15, 2012, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to the following:

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